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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/728,281      | 12/03/2003  | Masaru Kobayashi     | 01776/1200580-US1   | 7139             |

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EXAMINER

LEWIS, TISHA D

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/728,281

Applicant(s)

KOBAYASHI, MASARU

Examiner

TISHA D. LEWIS

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-13, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 14, 15, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 10/150,962.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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### **DETAILED ACTION**

The following is a first action on the merits of application serial no. 10/728,281 filed on December 3, 2003.

#### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/150,962, filed on May 21, 2002.

#### ***Information Disclosure Statement***

The information disclosure statement filed on December 3, 2003 has been acknowledged. The copy of references with relevance have been filed in the parent application cited above.

#### ***Preliminary Amendment***

The preliminary amendment filed on December 3, 2003 has been entered.

#### ***Specification***

Since the parent application has become a patent, the expression "now Patent No. 668220" should follow the filing date of the parent application in the first paragraph of the specification.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "the main gear member" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim, since it was not introduced in claim 9 from which claim 12 depends from.

Claims 12 and 17 recites the limitation "the surface portion" in line 3 of claim 12 and in line 12 of claim 17. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the lightweight material" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim, since it was not introduced in claim 9 from which claim 16 depends from.

In claims 16 and 22, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-11 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese patent 2000186718A. The Japanese patent discloses a wave gear drive having a rigid internal gear (120), a flexible external gear (130) located inside the internal gear, a wave generator (140) located inside the internal gear and a lightweight bearing (150) that couples the internal and external gear to provide relative rotation between both gears,

the rigid gear having a main gear member (121) and a circular teeth formation member (122) attached to an inner periphery of the main gear member having internal teeth (123) wherein the formation member is formed of an iron-based material and the main gear member is formed of a lightweight material lighter than the iron based material [0065],

the wave generator having a rigid cam plate (141) and a ball bearing (142) disposed on an outer periphery of the cam plate wherein the cam plate is formed of a lightweight material lighter than an iron-based material (last two lines of [0061]), and

the lightweight material is a light metal of aluminum alloy, titanium alloy, plastic or ceramics.

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 9 is rejected under 35 U.S.C. 102(b) as being unpatentable by Tortora et al ('711). Tortora et al discloses a wave gear drive having a rigid internal gear (18), a flexible external gear (20) located inside the internal gear, a wave generator (30) located inside the internal gear and a lightweight bearing (66, bearing is lightweight by eliminating the inner bearing race, column 5, lines 41-45) that couples the internal gear to the external gear to provide relative rotation between both gears.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 13, 17, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese patent in view of Kobayashi et al ('157). The Japanese patent discloses a wave gear drive having a rigid internal gear (120), a flexible external gear (130) located inside the internal gear, a wave generator (140) located inside the internal gear and a lightweight bearing (150) that couples the internal and external gear to provide relative rotation between both gears,

the rigid gear having a main gear member (121) and a circular teeth formation member (122) attached to an inner periphery of the main gear member having internal

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teeth (123) wherein the formation member is formed of an iron-based material and the main gear member is formed of a lightweight material lighter than the iron based material [0065],

the wave generator having a rigid cam plate (141) and a ball bearing (142) disposed on an outer periphery of the cam plate wherein the cam plate is formed of a lightweight material lighter than an iron-based material (last two lines of [0061]), and

the lightweight material is a light metal of aluminum alloy, titanium alloy, plastic or ceramics.

The Japanese patent also discloses the main gear member having fixing holes formed thereon for attachment to another member, but does not disclose if the seats for the fixing holes are plate coated.

Kobayashi et al discloses a wave gear drive having a rigid internal gear (2) with fixing holes in a main gear member wherein the teeth of the member is plate coated with nickel or chromium by electroless.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to plate coat the seats of the fixing hole in the Japanese patent, although the Kobayashi et al reference only plate coat the teeth, it would be within the skill of a worker in the art to further plate coat the seats of the fixing holes with the plating of the teeth in Kobayashi et al to simplify the manufacturing process of the rigid internal gear (column 4, lines 40-42, Kobayashi et al ('593)).

***Allowable Subject Matter***

Claims 14, 15, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**FACSIMILE TRANSMISSION**

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is **(703) 872-9326 before final and 703-872-9327 after final**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to  
the Patent and Trademark Office (Fax No. (703) 000-0000) on \_\_\_\_\_ (Date)

Typed or printed name of person signing this certificate:

\_\_\_\_\_

\_\_\_\_\_

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Kobayashi et al ('593) is cited as having a wave gear drive using plate coating for teeth and fixing hole seats of a rigid gear.

Kiyosawa ('435) is cited as having a method for forming a lightweight bearing for a wave gear drive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TISHA D. LEWIS whose telephone number is 703-305-0921. The examiner can normally be reached on M-Thur 8 AM TO 3 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHARLES A. MARMOR can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Tdl  
July 8, 2004

  
TISHA LEWIS  
PRIMARY EXAMINER  
Ad 3681 7/9/04